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COLONY OF MAURITIUS.

ANNUAL REPORT

ON THE

MEDICAL & HEALTH DEPARTMENT

FOR

1914.



MAURITIUS.

THE GOVERNMENT PRESS.

1915.



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I.—STATISTICS OF POPULATION.

Population. The Civil population of the Colony as estimated by the Registrar General was 376,233 on the 31st December 1914, showing an increase of 3,048 on the estimated population on the same date in 1913. This increase is solely due to an excess of the births over the deaths, as the number of the emigrants exceeded that of the immigrants by 47.

Deaths. The total number of deaths registered in 1914 was 12,134, with a death-rate of 32.5 per mille, viz : 3.0 ‰ lower than in 1913. In the districts the highest death-rate 42.4 ‰ was recorded in Black River ; Port Louis, Pamplemousses, Flacq, Grand Port, Moka, Savanne, Rivière du Rempart and Plaines Wilhems following with 39.9, 36.3, 34.6, 33.4, 32.1, 30.0, 26.9 and 25.1 ‰ respectively.

The largest number of deaths, 3,914, was ascribed to malaria. Pneumonia, tuberculosis and influenza caused 919, 974 and 268 deaths.

More detailed information on the subject will be found in Annexure II which has been prepared from figures kindly supplied by the Registrar General.

Births. There were 15,229 births during the year, an increase of 67 over the total for 1913. The births exceeded the deaths by 3,095. The birth-rate was 40.80 ‰. In the Districts the highest birth-rate, 43.5 ‰, was returned for Rivière du Rempart and the lowest 32.6 ‰ for Black River.

II.—METEOROLOGICAL STATISTICS.

The Director of the Royal Alfred Observatory has kindly supplied the information given in Annexure III with regard to the meteorological observations of interest from the public health point of view.

III.—PREVALENCE OF SICKNESS

AND

THE RECURRENCE OF PARTICULAR DISEASES.

As usual, the reports from the various hospitals, asylums and dispensaries supply the figures for this chapter of the report.

The number of in-patients treated during the course of the year showed an increase of 2,283 over that recorded in 1913. This rise was principally due to malaria and influenza, the admissions for these diseases being notably more numerous between March and August. There were 1,018 deaths and 2,103 surgical operations were performed with 44 deaths. The number of the sick attended to at the dispensaries, 62,944, was also larger than last year, but the out-door cases in the hospitals fell from 7,574 to 5,818. The above indicate that the general health conditions were not favourable during the year under review.

Malaria and Hypertrophy of the Spleen :—Malarial fever accounted for 2,925 admissions into the hospitals with 52 deaths. The death-rate per thousand of the population was 10.4. As stated above, the disease was more prevalent between March and August. The case mortality was 1.77% against 1.84 % in 1913.

The following table shows the admissions during the last decennial period :—

Years.	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Admissions	5,123	3,674	4,272	5,071	3,929	2,338	2,117	3,063	2,546	2,925

Dysentery.—500 cases were treated with 65 deaths. The disease has been more prevalent than in 1913, but the case mortality was lower : 13.0 % instead of 16.62 %.

Enteric Fever.—92 cases were admitted, with 24 deaths, against 37 cases with 7 deaths in the previous year. The case mortality was 26.0 %.

Cases of Enteric notified in 1914.

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	
													1914	1913
Port Louis	3	4	21	10	5	6	5	1	4	1	1	1	62	23
Pamplemousses ... ..	...	...	1	...	...	...	...	...	...	...	...	2	3	2
Rivière du Rempart ... ..	...	1	1	3	2	...	3	...	1	1	1	5	18	22
Flacq ... ..	...	...	...	...	...	...	...	...	2	...	1	...	3	2
Grand Port ... ..	...	...	...	1	1	1	...	...	3	...	2	1	9	14
Savanne	2	...	1	2	1	...	1	...	2	1	2	3	15	13
Black River... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	17
Plaines Wilhems	2	4	13	16	4	1	7	15	8	10	3	7	90	71
Moka... ..	...	...	1	1	1	1	...	...	2	18	9	1	34	8
Total... ..	7	9	38	33	14	9	16	16	22	31	19	20	234	172

Plaines Wilhems, Port Louis and Moka were the districts most affected. The incidence of the disease in Plaines Wilhems was somewhat higher than the year before, but in Port Louis and Moka it was quite unusual. In Port Louis the cases were mostly located in the Western part of the Town ; the source of infection remained doubtful, but the desirability of improving the water supply of the Town may again be referred to in connection with the occurrence. In Moka district there were local outbreaks which were traced to the contamination of the water supply. Two estate camps were among the localities affected.

Diphtheria :—5 cases were treated ; they all recovered. In the whole Island 26 cases were notified with 3 deaths.

Influenza :—There has been a well marked rise in the number of admissions during the year. 1,236 cases were treated, with 32 deaths.

Pneumonia :—The number of pneumonia cases was also larger. 350 patients were treated with 107 deaths, giving a case mortality of 30.6 %, 4.5 % lower than in 1913.

Tuberculosis :—The admissions were more numerous than last year, viz : 869 against 779, while the total number of deaths from the disease, 974, was very nearly the same.

Cerebro-Spinal Meningitis :—No case was admitted into the hospitals. Only 2 cases were notified, they both proved fatal.

Beri-beri :—Two cases which were cured received treatment in the public hospitals.

Nephritis :—568 cases, an increase of 24, were admitted with 91 deaths.

Syphilis :—There was a decrease in the number of admissions this year : 476 against 542 ; but more cases received out-door treatment, 537 against 499.

There were 7 deaths in hospital and 368 cases were treated for primary infection.

Leprosy :—The number of inmates at the St. Lazare Asylum on January 1st 1914 was 88. During the course of the year 13 men and 3 women were admitted making a total of 104 treated in the establishment. 7 men and 3 women were discharged and 8 men and 3 women died. The number of inmates left on December 31st 1914 was 65 men and 18 women.

Erysipelas :—The number of cases treated was 35 with 6 deaths ; 47 cases with 16 deaths were notified for the whole Island.

Measles :—No case was admitted into the hospitals. Two cases were notified and they recovered.

Scarlet Fever :—None reported.

Mental diseases :—There were 145 admissions (92 males and 53 females) into the Lunatic Asylum during the year under report, or 21 more than in 1913. These admissions may be classified as follows : 92 first admissions, 7 second admissions, 2 third admissions, 32 readmissions from probation and 1 readmission from the Branch Wards of the Barkly Asylum. In addition 11 persons admitted were subsequently found not to be insane and were accordingly discharged.

The greatest number of these admissions came as previously observed from the districts of Port Louis and Plaines Wilhems.

The number of inmates on the roll of the Asylum on 31st December 1914 was 488 (299 males and 189 females) an excess of 21 over that for the preceding year. At the Lunatic Branch Wards of the Barkly Asylum there were 100 imbeciles (70 males and 30 females).

The daily average population was 470.45 in the Asylum and 94.2 in the Branch Ward, as compared with 455.74 and 99.86 in 1913.

During the course of the year 12 Criminal lunatics were admitted, and the number under detention on December 31st 1914 was 22.

In 88 of the cases admitted, the causes of the mental trouble could be ascertained, the more common ones being epilepsy, hysteria, mental worry and depression, alcoholism, malaria and gunjah smoking.

Ninety patients (59 males and 31 females) were discharged from the Asylum and from the Branch Wards. In addition to the 11 found not insane, 2 were finally discharged. 71 were discharged on probation and 6 were transferred to the Barkly Asylum Wards. 20 patients among those under probation were finally discharged. There were 34 deaths during the year.

The total number of certified lunatics in the Colony on 31st December 1914, including the patients in the Barkly Asylum Branch Wards and those out on probation was 706, showing an increase of 38 over the figure for the previous year. The ratio of insane to total population was 1 in 532 or 18.79 per 10,000.

Whooping Cough :—One case treated.

Varicella :—40 cases were notified.

Plague :—The total number of cases of plague registered during the year was 125, the lowest on record, with 111 deaths, or a death-rate of 88.8 %. Port Louis, Plaines Wilhems and Rivière du Rempart were the only districts affected. In January and February 8 cases occurred in Port Louis, 35 in Plaines Wilhems and 2 in Rivière du Rempart. With the exception of 4 cases in Plaines Wilhems in March, the Colony remained free from the disease until the middle of September when it reappeared and 68 cases were detected in Port Louis and 55 in Plaines Wilhems from then till the end of the year.

Race incidence.—Two cases which proved fatal occurred amongst the white population, 33 cases with 29 deaths amongst the general population ; 83 cases with 74 deaths amongst the Indians and 7 cases with 6 deaths amongst the Chinese.

The incidence was 15.1 and 3.3 % lower for the non-white and Chinese population respectively, while in the case of the Indian population it was 17.5 % higher than in the previous year.

Sex Incidence.—The percentage of attacks was 57.6 % for males and 42.4 % for females ; the death-rate was practically the same.

1914.	Numbers attacked.				Death-rate %.	
Males	72	..	...	88.9
Females	53	...	...	88.7

Age incidence.—No case was detected among infants under one year or among adults above 80. The age period 11–40 years accounted as usual for the largest number of cases. The smallest death-rate 66.7 % was returned for the age group 41–50 years.

The following table shows the yearly number of plague cases and deaths since 1899 when the disease broke out in the Colony :—

Years.	Cases.	Deaths.	Death-rate.
1899... ..	1,416	1,117	78.9 %
1900... ..	796	593	74.5
1901... ..	1,093	805	73.7
1902... ..	506	384	76.3
1903... ..	1,395	1,035	74.2
1904... ..	568	449	79.0
1905... ..	308	251	81.5
1906... ..	434	344	79.3
1907... ..	224	178	79.5
1908... ..	167	137	82.0
1909... ..	457	333	72.9
1910... ..	731	553	75.6
1911... ..	173	131	75.7
1912... ..	656	541	82.5
1913... ..	313	261	83.4
1914... ..	125	111	88.8

Type of disease.—As usual the disease assumed the bubonic form principally. The cases were classified as follows :—

Type.	Number of Cases.	Deaths.
Bubonic	92	81
Abubonic	14	12
Septicæmic	3	3
Pneumonic	1	1
Type not recorded	15	14
Total... ..	125	111

Disinfection, &c.—Disinfections were, as usual, carried out in connection with human and rat plague, and blocks of houses in infected areas were also dealt with. In Port Louis a total number of 3,544 premises were disinfected and in the course of that operation 3,108 dead animals (rats, mice and cats) were discovered.

Rat destruction was persistently carried out by means of trapping and poisoning. Rat virus was used in January, the virulence of the preparation having diminished, its use had to be discontinued for some time until it had been reinforced. The total number of rodents destroyed was 70,267 in Port Louis and 55,322 in the country districts. A percentage of 54.33 of the rats caught in the traps in Port Louis were microscopically examined for plague bacilli with an infection rate of 6.4 %.

Disinfection of grain stores with the portable Clayton disinfector was carried out on 191 occasions during the year. Sulphur fumigation with ordinary burners was also carried out and 1,865 rodents were destroyed in the course of these operations.

Lazarets and treatment.—The lazaret at Bois Savon was the only one used during the year. The cases were distributed as follows :—

	Cases.	Deaths.	o/o.
Bois Savon Lazaret	29	23	79.3
Civil Hospital C.D. Wards	5	5	100
Barkly Asylum " "	5	5	100
Patients treated at home or in Estate hospitals	33	20	60.6
	72	53	73.6

The crude death-rate at Bois Savon is reduced to 68.4 % after discarding 10 cases with a fatal termination within 24 hours after admission. The electro-colloidal treatment did not yield so encouraging results as in 1913 ; the corrected case mortality being 81.2 % against 52 %.

IV. VACCINATION.

The number of children vaccinated during the year at the public vaccine stations was 12,537.

Of these vaccinations 12,460 were certified as successful by the Public Vaccinators. The operation proved unsuccessful in 54 cases, and in the remaining 23 cases the result could not be ascertained. The proportion of vaccinations to total births was 82.3 %.

Between August and November when the supplies from the Chambon Institute, Paris, were delayed in consequence of the war, the stock was kept up with lymph prepared by Dr. Barbeau, Government Bacteriologist and Analyst. The lymph issued proved very satisfactory.

V. SANITARY ADMINISTRATION.

This matter is dealt with in Annexures IV, V & VI.

VI. HOSPITALS AND ASYLUMS.

The following table gives a summary of the work done at these establishments during 1914 :—

Work done in the Public Hospitals and Asylums in 1914.

Hospitals.	Remaining on 31.12.13.	Fresh Cases.		Deaths.	Remaining on 31.12.14.	Number of beds.
		In-door.	Out-door.			
Civil (Port Louis) ...	163	5,559	271	361	183	265
Port Louis Prisons ...	7	684	718	2	5	18
Long Mountain ...	10	1,146	891	63	15	35
Poudre d'Or ...	28	1,625	...	67	33	68
Flacq ...	30	1,460	...	71	19	82
Mahebourg ...	32	1,295	173	78	16	102
Souillac ...	19	1,162	42	63	17	75
Barkly Asylum ...	80	3,121	50	230	109	221
Reformatory ...	1	39	19	...	...	10
Lunatic Asylum ...	25	554	1,604	34	36	30
Beau Bassin Prisons...	9	452	2,021	5	15	32
Moka ...	12	1,466	29	44	36	60
Total ...	416	18,563	5,818	1,018	484	998

VII. MISCELLANEOUS.

Port and Quarantine :—The Health Officer boarded 214 ships during the year. Out of them, 172 were at once admitted to pratique, 21 refused pratique and 21 received pratique after disinfection of the effects and clothes of the steerage passengers. The number of vessels "claytonised" was 21. Disinfections at the Harbour Disinfecting Station were carried out on 20 occasions for out-going passengers and twice for passengers from in-coming vessels. The station was also used for the disinfection of infected articles from Port Louis and the districts.

Anti-malarial Works have received constant attention during the year, the Sanitary Wardens seeing to the minor works and the upkeep of the works completed, and the Sanitary Engineer's Branch carrying out major works. Among the more important drainage works undertaken are those carried out in Rivière Sèche, in Rivière Françoise and Rivière Coignarde, in Flacq district ; in Rivière Citron, Ville Bague Canal and Beau Plan marshes,

Ruisseau Sec, Tombeau River and the Cocoterie marshes in Pamplémousses district. Work was also done in connection with the Tamarin marshes at Black River; and in Port Louis, the Pitot drain was continued and part of River Lataniers canalized.

LABORATORY WORK.

Chemical.—The total number of articles examined during the year was 336. As usual the analyses were undertaken at the request of the various Government Departments and in 50 cases they were made for the Judicial Department.

Bacteriological.—The growing favour of vaccine therapy in the Island led to an increase of work in connection with the preparation of vaccines for prophylactic and curative purposes. This was a prominent feature in the year's work and along with the transfer on February 1st of the duties of Government Analyst to the Bacteriologist led to the efforts of the Laboratory staff being mainly limited to routine work. More time will, it is hoped, become available for research work when things gradually settle down.

The following is a summary of the medical work done :—

Microscopical examinations for malaria, diphtheria, plague and other diseases	...	...	394
Widal's reaction for typhoid	...	...	299
„ „ paratyphoid	...	...	7
Wasserman's reaction	...	...	44
Bacteriological examinations involving cultures	...	...	187
Differential count of blood corpuscles	...	...	50
Sections (tumours)	...	...	4
Vaccines—typhoid	...	...	31
„ —Staphylococcus bacillus lactis aerogenes, bacillus acidi lactici, bacillus coli commune, micrococcus catarrhalis and streptococcus	...	...	24
Examination of urine	...	...	85
Experiments on small animals	...	...	16

Veterinary.—The veterinary investigations until then undertaken by the Bacteriological Laboratory were handed over to the Government Veterinary Surgeon on November 1st. The work done during the first ten months of the year comprised 1,310 blood examinations for surra, piroplasmosis and trypanosoma Lewisii. Six equidæ were treated for surra with one cure, two deaths and three animals still under treatment were handed over to the Government Veterinary Surgeon in November.

The fees collected by the Laboratory for work done for private parties amounted to a total of Rs. 4,217.25.

Ordinances :—The following Ordinances referring to Public Health matters and the work of this Department were passed during the course of the year :—

Ordinances.	Provisions.
No. 2 of 1914	Amending the Quarantine Ordinance, making provision for the disposal of waste waters, &c., from ships in harbour and that of drinking and bilge water from vessels coming from cholera infected ports.
No. 27 of 1914	The Lunacy (Amendment) Ordinance transferring the powers and duties with regard to pauper lunatics from the Poor Law Commissioner to the Director of the Health Department.
No. 31 of 1914	The Public Health (Amendment) Ordinance extending the powers of the Sanitary Authority in connection with the inspection of shops, &c., and the control of the sale and storage of articles of food.
No. 38 of 1914	The Curepipe (Amendment) Ordinance extending the sanitary powers of the Curepipe Town Board.

Departmental changes :—During the course of the year under report, the Eastern Dispensary, Port Louis, was closed and all the Dispensary work in the Town is since carried out at the Civil Hospital Dispensary. A new hospital was provided at the Central Prisons, Port Louis, and the management of the financial assistance to the Leper Asylum was transferred from the Poor Law to the Medical and Health Department.

On the retirement from the service of Dr. Jollivet, Dr. Paddle was placed in charge of the combined post of Medical Superintendent, Barkly and Lunatic Asylums, his duties as Government Analyst were transferred to Dr. Barbeau who was appointed Government Bacteriologist and Analyst. Dr. Barbeau's place as Assistant Director and Chief Sanitary Officer was occupied by me as Chief Sanitary Officer. Dr. Castel took over the duties of Sanitary Warden, North, and Dr. Lincoln those of Health Officer and Assistant Government Medical Officer, Port Louis. Drs. de Boucherville and Leclézio were appointed Government Medical Officers for Grand Port and Moka respectively, and Dr. Vinson replaced Dr. de Boucherville as Dispensary Medical Officer, Port Louis.

F. J. R. MOMPLÉ,

14th July 1915.

Acting Director,
Medical and Health Department.

ANNEXURE I.

Return of the Statistics of Population for the year 1914.

	Europeans, Whites, Mixed and Coloured and Africans.	Indians.	Chinese.	Total
Number of Inhabitants on 31.12.13 ...	108,814	258,837	5,534	373,185
„ Births in 1914...	4,181	10,879	169	15,229
„ Deaths in „ ..	3,353	8,652	129	12,134
„ Immigrants „ ...	1,803	1,659	484	3,946
„ Emigrants „ ...	2,164	1,151	678	3,993
„ Inhabitants on 31.12.14.	109,281	261,572	5,380	376,233

ANNEXURE II.

Statement of deaths from principal diseases during the year 1914.

Obtained from Civil Status returns.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Plague ...	18	19	1	4	...	...	...	...	9	9	18	39	117
Enteric Fever ...	...	4	16	8	6	5	5	1	4	3	3	6	61
Malarial Fever ...	308	309	405	402	418	363	408	264	259	281	239	258	3,914
„ Cachexia ...	10	10	5	12	9	17	17	10	7	4	5	11	117
Diphtheria ..	...	...	1	...	...	1	...	...	1	...	...	...	3
Cerebro-spinal meningitis ...	...	...	...	...	1	...	...	1	...	...	...	...	2
Whooping Cough ...	1	2	2	2	3	4	4	3	1	...	3	1	26
Influenza ...	2	1	5	10	17	16	75	39	28	29	18	28	268
Pneumonia ...	54	25	33	31	62	52	130	82	48	60	52	54	683
Bronchitis ...	21	35	37	29	39	42	60	67	38	48	45	41	502
Phthisis ..	4	7	7	8	4	10	...	7	6	7	9	6	75
Tuberculosis ...	67	65	87	71	72	86	93	82	91	86	86	88	974
Erysypelas ...	1	1	...	3	2	2	2	2	1	...	2	...	16
Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery ...	46	35	51	55	72	68	54	48	35	32	29	33	558

ANNEXURE III.

Meteorological return for the year 1914.

Months.	TEMPERATURE.					RAINFALL.		WIND.	
	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.
January ...	68.5	85.9	72.4	13.5	78.4	5.995	76.3	E. by S.	9.55
February ..	69.8	86.2	73.8	12.4	79.5	8.570	81.5	E. by S.	6.92
March ...	68.3	85.3	73.1	12.2	78.7	8.830	81.0	E. S. E.	8.19
April ...	64.8	82.7	69.9	12.8	75.7	2.835	80.2	E. S. E.	8.26
May ..	60.9	79.4	65.9	13.5	72.3	2.870	78.2	E. S. E.	9.61
June ...	61.3	77.1	65.8	11.3	70.9	5.145	78.5	E. S. E.	11.43
July ...	56.7	74.6	62.3	12.3	68.0	2.515	76.6	E. S. E.	11.13
August ...	58.1	74.7	62.6	12.1	68.1	1.710	72.2	E. S. E.	14.35
September ...	59.4	77.7	63.9	13.8	70.3	1.060	70.5	E. by S.	11.65
October ...	58.3	80.4	63.6	16.8	70.8	0.690	68.4	E. by S.	10.88
November ...	64.4	82.4	68.5	13.9	74.7	0.925	66.8	E. by S.	13.41
December ..	65.3	83.9	69.8	14.1	76.4	1.980	69.3	E. by S.	12.28

ANNEXURE IV.

Annual report on the work done in the Sanitary Branch during 1914.

The reports received from the various local Sanitary Authorities on the sanitary condition of the districts under their charge are herewith submitted along with the usual statements showing the duties performed and the contraventions detected by the staff of the Sanitary Officers.

The following is a general description of the work done :—

PORT LOUIS :—During the year under review the Sanitary Officers paid 11,674 visits to private premises and lodging houses. The inspections of shops, markets, bakehouses, slaughter-houses and butchers' shops amounted to 2,276 and special enquiries and other duties, &c., including attendance at Cremations and Exhumations as well as controls of the milk trade were attended to on 10,100 occasions.

The staff made 2,546 inspections of stables, pigsties and cowsheds and controlled the night soil service and the public latrines 207 times during the year.

The private gratuitous latrines, cemeteries, noxious factories, camps, watercourses &c., called for 470 inspections.

Quarantine duties were attended to on an aggregate of 20 days by the Disinfectors of the Staff.

The waste lands in the Town and its Suburbs were cleaned of rank vegetation over an extent of 503,382 square yards.

The Sanitary Officers attended Court on 211 occasions.

The total number of contraventions of the different enactments detected during the year amounted to 793 and out of these 27 had not been finally dealt with when the year closed. The amount of fines collected amounted to Rs. 1,077.

739 Schedules were served upon the Municipal Corporation for nuisances the removal of which, the Municipality is responsible for under the provisions of Ordinance No. 23 of 1903, and 401 of them still remained unabated at the end of the year. Most of these nuisances were due to defective gutters, gully holes and regards; obstruction and defective condition of the bed and banks of the various streams of the Town. A good number of the above-mentioned nuisances were due to the constant waste of water on private premises and until the present method of water distribution is modified no improvement in that direction can be contemplated. I need scarcely point out the direct bearing which those insanitary conditions have on the development and spread of Malaria in Port Louis.

The Scavenging service of the Town was somewhat neglected during the first quarter of the year, but upon several representations made to the Municipal Corporation, that service was fairly well performed during the remainder of the year except however in the outlying parts of the Town which did not receive the attention they required. Scavenging neglects were reported on 852 occasions.

Besides the public nuisances above referred to, 15 were brought to the notice of the Honourable Director of Public Works and 5 to that of the Honourable the General Manager of Railways, while 2,408 notices and requests were served in connection with nuisances detected on private premises.

246 inspections were made by the Staff in connection with dhobies' workshops and 129 in regard to bakehouses in the Town.

The water carriage system has been further extended in Port Louis by the construction of 10,836 feet of sewers and 141 private premises have been connected with the drainage system.

The application of the Swine Destruction Ordinance resulted in the shooting of 123 pigs by the Police in the extra urban areas of the town of Port Louis.

1,467 Orders under Ordinance No. 21 of 1900 were issued by the Sanitary Warden of Port Louis for the removal of insanitary conditions detected in the shops, stores and private premises and also to protect the buildings against invasion by rats and in that respect to secure a more satisfactory method in the storage of grain and other stores in Port Louis.

There has been no change in the Water Supply of Port Louis except that that part of the Canal Dayot which used to convey water for ships in Harbour has been suppressed. It remains, as has already been pointed out by my predecessors, unsatisfactory and exposed to pollution especially that branch of Bathurst Canal which supplies water to Ste. Croix and the Eastern part of the Town. The Municipal Corporation has been invited by Government to consider the question of improving the Water Supply of the Town and it is to be hoped that the matter will receive attention within short delay.

RURAL DISTRICTS :—The Sanitary Officers detected 3,435 contraventions of the Sanitary Enactments. Action was taken in 2,134 cases and the fines collected amounted to Rs. 5,987.66, 23,349 notices were issued by the Sanitary Authorities for the abatement of nuisances on private premises ; 987 gave rise to prosecutions and the fines imposed, amounted to Rs. 410.37.

The total amount of Revenue collected from the cemeteries and markets was Rs. 10,639.85.

The total number of animals killed in the four Public Slaughter-houses was 4,337 and the fees collected amounted to Rs. 8,743.50.

The working of the following noxious factories has been sanctioned during the year under review :—

Aloe fibre factory	...	...	1
Bambara factory	...	...	1

Anti-Malarial measures on the lines laid down by Professor Ross were continued ; major works being carried out by the Sanitary Engineer and the minor ones under the supervision of the Sanitary Wardens. House to house distribution of quinine was carried out by three quinine distributors under the directions of the Sanitary Wardens. The measure afforded relief to many a sufferer from acute Malaria who would not have otherwise obtained the drug.

The number of Plague cases detected as compared to that of previous years, was the smallest recorded ; 68 were registered in Town and 57 in the Country Districts, especially Rose Hill and Beau Bassin ; of these 111 proved fatal giving a death-rate of 88.8 o/o.

The number of rats destroyed during the year was 70,267 in Town and 55,322 in the Country Districts.

F. L. KEISLER,

29th June 1915.

Acting Chief Sanitary Officer.

ANNEXURE V.

Report on works executed by the Sanitary Engineer's Branch during 1914.

—
PORT LOUIS.

Lataniers stream.—The improvement of Lataniers stream was continued. Fifteen hundred feet were canalized above Pamplémousses Road Bridge and three thousand feet between Nicolay Road Bridge and Abattoir Road Bridge. Below Abattoir Road Bridge where the tide is felt the banks of the stream were enclosed within masonry walls in order to reduce the width of the stream and protect them from tidal effects.

PAMPLEMOUSSES.

Terre Rouge streams.—The improvement of the streams of Terre Rouge mentioned in the Annual Report of 1913 was continued. Ruisseau Sec was canalized from Riche Terre Railway Station to its junction with River Terre, a length of 6,000 feet. Le Hochet drain was also continued on a length of 2,000 feet and completed. River Terre was graded and improved from Bathurst Canal to the sea, a length of 8,000 feet.

Pamplémousses Village.—The extensive marsh at Beau Plan, of 20 acres area which has caused so many deaths during the last quarter of a century has been entirely drained. A masonry channel, 4 feet wide and 18 inches deep, 3,000 feet long and an earth channel 1,200 feet long were made to deviate the waters of the Powder Mills and Ville Bague Canal which caused the marsh. The dyke which formed the marsh has been removed. Below the dyke, 700 feet of the Ville Bague Canal leading to Mon Désir has been canalized and also 5,000 feet of the same canal which formed an extensive marshy area below the dyke at Beau Plan in the direction of the Powder Mills. The canal on its whole length is now properly graded and has very good banks.

Tombeau River.—The improvement of this river from the sea to the Municipal dyke, 8,000 feet long, has been taken in hand. Two dykes feeding irrigation canals to the Estates Les Moulins and Massilia have been removed and rebuilt higher up stream at spots chosen so that no backing of water results from their presence; the original irrigation channels have had to be lengthened accordingly, the former 1,000 feet and the latter 2,000 feet. The river which is broad and flat covered with rank vegetation has been given a proper bed of uniform width and slope. Very heavy blasting had to be effected and the artificial bed had to be taken to a depth of 10 feet in certain places; the work has so far progressed satisfactorily and will be further described in next year's report.

Cocoterie.—At Cocoterie a water logged marshy area of eight acres has been drained by cutting a channel 14 feet wide, 2 feet 6 inches deep and 2,200 feet long in sandy soil, which communicates with the sea. To prevent deterioration of the banks, caused by the ebb and flow of the tide they have been stone pitched.

FLACQ.

Centre of Flacq Marsh.—The Centre of Flacq Marsh, the drainage of which had been commenced three years ago was completed by the construction of drainage channels at the top of the marsh on an aggregate length of 2,000 feet.

Rivière Française.—The drainage of the marshes along Rivière Française at Constance (d'Arifat) of an extent of about 40 acres was commenced by the deepening to four feet and proper grading of the bed of the river from the Port Louis-Flacq Main Road to a point 4,000 feet up stream, the bed being widened to six feet. A deviation channel 7 feet wide and 18 inches deep was also constructed to exclude the water of the river from the marshy area, thus rendering its drainage possible.

In the same region, the canalization of Ruisseau Pont Blanc and Grande Barbe were undertaken on a length of 4,000 feet.

Rivière Coignarde.—The improvement of Rivière Coignarde, possibly the most insalubrious river of Flacq, was commenced. A natural rock obstruction was blasted on a length of 500 feet, 8 feet deep and 7 feet wide; then the bed of the river was improved and graded on a length of 1,500 feet, up stream.

BLACK RIVER.

Tamarin Marsh.—The works undertaken to drain Tamarin Marsh were continued. The marsh discharge channel was deepened and graded on a length of 1,500 feet below the Black River Railway line.

DRAINAGE WORKS.

Drainage works were also undertaken in the extra urban area of Port Louis and the Rural Districts.

The Camp Nattou drain was continued on a length of 500 feet.

At St. Pierre a masonry drain 450 feet long was constructed along the main road to Port Louis and that leading to the Church, to rid the locality of a long standing nuisance.

At Souillac, Mahebourg and other rural districts, repairs to drains were also effected.

LAZARETS.

The lazarets at Camp Coriolis, Poudre d'Or, Flacq, Mahebourg, Souillac and Lower Plaines Wilhems which had been somewhat hastily erected at the outbreak of plague with materials not of first class quality, have never been seriously repaired, they were accordingly in great need of extensive repairs. It was decided to pull down the Lower Plaines Wilhems Lazaret and to utilize the materials obtained therefrom, to repair the other lazarets. This has been done with the result that the lazarets are now in very fair order and will not need serious repairs for some time to come.

CEMETERY BUILDINGS.

Cemetery buildings were repaired at Grand Gaube, Bois Marchand, Trois Ilots, Quartier Militaire, Cap Malheureux, Pointe Lascars and Plaine Magnien.

MARKETS AND ABATTOIRS.

Repairs were effected at Curepipe and Mahebourg markets, and also at Rose Hill and Mahebourg abattoirs.

BUILDING PERMITS.

The total number delivered was 1,300, as follows :—

165 for better class buildings

962 for new straw huts

173 for repairs to existing buildings.

Total ... 1,300

14th July 1915.

J. Loïs NAZ,
Sanitary Engineer.

ANNEXURE VI.

ANNUAL REPORT.

Report on the Anti-Malarial works carried on in Rivière Sèche during the year 1914.

The section of Rivière Sèche comprised between the "La Caroline" Bridge and the "La Lucie" dam (7,000 feet long) begun in August 1913 was completed in 1914, at the cost of Rs. 33,843. The principal aim had been achieved and the canal constructed proved to be quite satisfactory.

In July 1914, work in the section below the "La Caroline" Bridge was begun and the channelling of one branch of the river led to the suppression of two other marshy branches.

The "La Caroline" Estate at the same time started the construction of a new dam and canal at the lowest point of this section, in order to derive Water-Power for driving an Aloe Fibre Factory.

The cost for this "3,300 feet" section amounted to Rs. 9,852.10 and the work was completed in December.

Another section, that above the "La Lucie" dam, was also taken in hand. The "La Lucie" and the "St. Amand" dams were demolished and channelling effected over the greater portion of this "6,800 feet" section at the cost of Rs. 17,983.34.

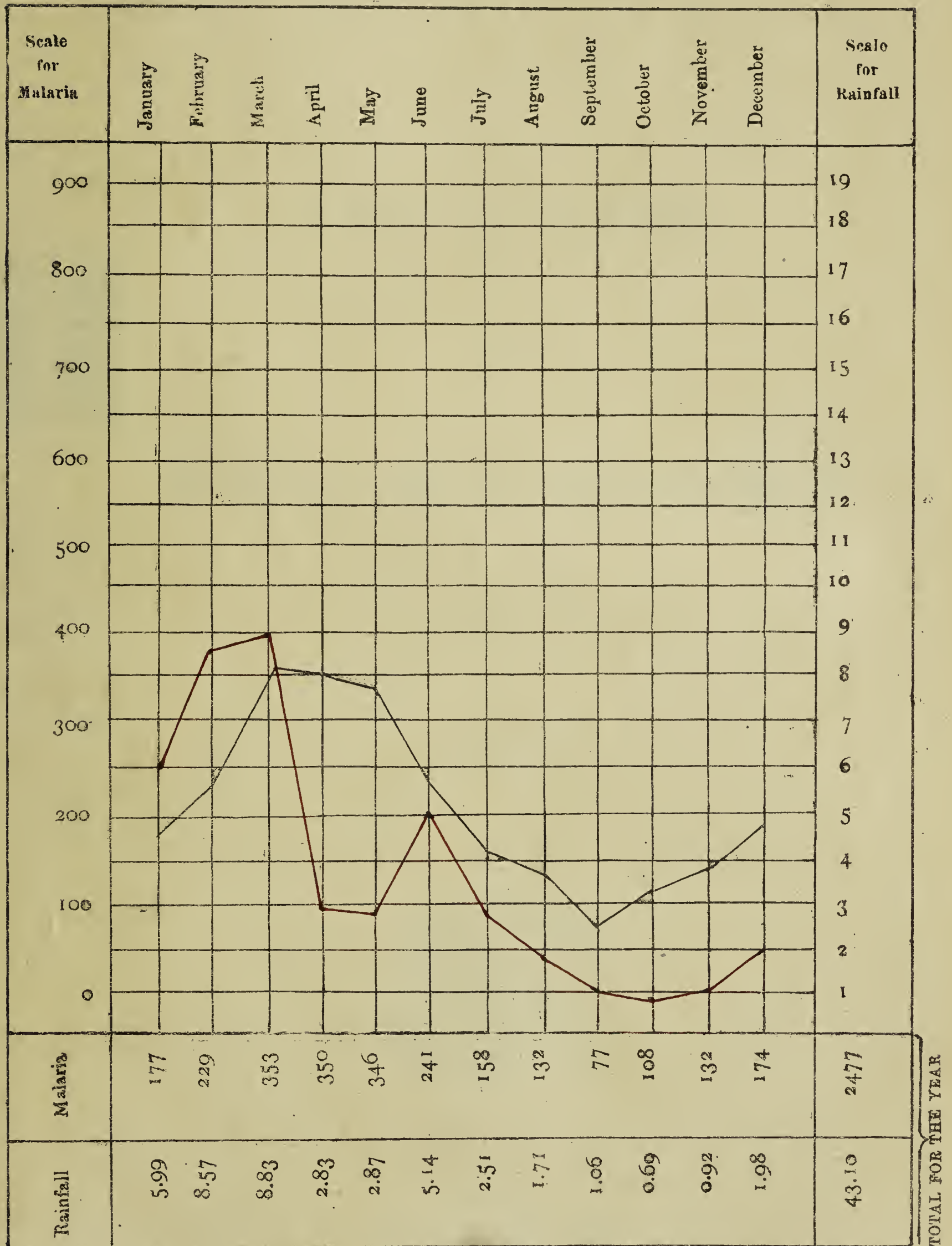
Previous to attempting the canalisation of the d'Unienville Section, another stream (the St. Louis) which caused the existence of a series of marshes was taken in hand. As, this stream was actually a sort of natural connection between Rivière Sèche on the Northern side of Mountain Blanche and Deep River in the Southern side; the channelling of its course had a great economical result on the work that had to be carried on in Rivière Sèche.

The St. Louis stream was 6,300 feet long and the cost for the channelling of same amounted to Rs. 2,990.04.

A. C. LE MEUR,
Assistant Sanitary Engineer.

ANNEXURE VII.

Chart showing Monthly Rainfall and Admissions at the Public Hospitals
and Asylums for Malaria during 1914.



Malaria_____

Rainfall_____

